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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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CONNOLLY BOVE LODGE & HUTZ LLP
1875 EYE STREET, N.W.
SUITE 1100
WASHINGTON, DC 20036

EXAMINER	
RAJAN, KAI	

ART UNIT	PAPER NUMBER
3736	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/707,960	CHIBA ET AL.	
	Examiner	Art Unit	
	Kai Rajan	3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5,7,9,13 and 29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5, 7, 9, 13, and 29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Examiner acknowledges the communication filed October 15, 2007.

Election/Restrictions

Claims 11 and 12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on October 15, 2007. Applicant argues that restriction between species is not proper, and has cited MPEP Section 803.

It is the Examiner's position that the independent claims are drawn to different embodiments of the invention. One embodiment comprises a planar loop antenna (paragraphs 0031 & 0042). Another embodiment comprises a coil antenna, for use in low-frequency communication (paragraphs 0031 & 0042). Since each type of antenna is used under different conditions and for a different communication protocol, restriction between species drawn to different embodiments is proper.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Habib et al. U.S. Patent No. 6,682,480 in view of Najafi et al. U.S. Patent No. 7,211,048, further in view of Scarantino et al. U.S. Patent No. 6,402,689, and further in view of Amundson et al. U.S. PGPub No. 2003/0009204.

In regards to claim 5, Habib et al. discloses an in-vivo information extracting system comprising:

a tag device used in a living body, a relay device which is installed outside the living body and near the tag device placed in the living body, and a main transceiver which exchanges signals with the relay device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16, figure 1 items 5, 7, and 7),

wherein the tag device comprises:

tag reception means for receiving an electromagnetic wave fed from outside the tag device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16),

power generating means for generating internal operating power from the electromagnetic wave received by the tag reception means (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16),

in-vivo information extracting means for measuring an environment within the living body and outputting measured data (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16), and

tag transmission means for wirelessly transmitting the measured data outputted by the in-vivo information extracting means to the relay device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16); and

wherein the relay device comprises:

relay reception means for wirelessly receiving the measured data transmitted by the tag device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16), and

the relay transmission means comprises means for transmitting the measured data to outside the relay device in response to a request signal supplied from outside the relay device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16).

Habib et al. fails to disclose accumulating measured data within the relay device. However, Najafi et al. a reference in an analogous art, discloses storing data in between transmissions to a remote transceiver (Najafi et al. column 2 lines 40 – 58, column 3 lines 8 – 56, column 4 lines 50 – 67). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the relay device of Habib et al. with the data storage memory of Najafi et al., since Najafi et al. states that memory would be useful for long – term data monitoring without continuous communication to other devices (Najafi et al. column 4 lines 58 – 67), and the invention of Habib et al. may be embodied in a pacemaker. A pacemaker is an implanted device that would require long – term monitoring.

Furthermore, Habib et al. fails to explicitly disclose transferring data wirelessly between the relay and main transceiver. However, Scarantino et al., a reference in an analogous art teaches the use of a wireless relay (Scarantino et al. column 11 lines 31 – 61, figure 3 item 115, figures 1A & 1B items 75 & 75'). It would have been obvious to one of ordinary skill in the art

at the time of the invention to substitute the wired relay of Habib et al. with the wireless relay of Scarantino et al., since Scarantino et al. teaches the interchangeability between wired and wireless communication methods (Scarantino et al. column 11 lines 31 – 61, figure 3 item 115).

In regards to claim 7, Habib et al. discloses transmitting measured data to a main transceiver (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16). Habib et al. fails do disclose the relay transmission means comprising means for retransmitting the measured data accumulated in the data accumulating means to the main transceiver if no acknowledge signal is returned. However, Amundson et al. a reference in an analogous art, discloses a protocol for an implanted medical device to retransmit data when an acknowledge signal is not received from the recipient (Amundson et al. paragraph 0014). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify he relay transmission means of Habib et al. to include the transmission protocol disclosed in Amundson et al. since retransmitting data when no acknowledge signal is received from the recipient is a reliable method of data transmission and is well known in the communication art via TCP (Amundson et al. paragraph 0014).

In regards to claim 9, Habib et al. discloses an in-vivo information extracting system comprising:

a tag device used in a living body, a relay device which is installed outside the living body and near the tag device placed in the living body, and a main transceiver which exchanges

signals with the relay device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16, figure 1 items 5, 7, and 7),

wherein the tag device comprises:

tag reception means for receiving an electromagnetic wave fed from outside the tag device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16),

power generating means for generating internal operating power from the electromagnetic wave received by the tag reception means (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16),

in-vivo information extracting means for measuring an environment within the living body and outputting measured data (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16), and

tag transmission means for wirelessly transmitting the measured data outputted by the in-vivo information extracting means to the relay device; and wherein the relay device comprises (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16):

relay reception means for wirelessly receiving the measured data transmitted by the tag device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16), and

relay transmission means for wirelessly transmitting the measured data received by the relay reception means to the main transceiver (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16);

the tag transmission means comprises means for transmitting the measured data in response to a request signal supplied from outside the tag device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16).

Habib et al. fails to disclose accumulating measured data within the relay device. However, Najafi et al. a reference in an analogous art, discloses storing data in between transmissions to a remote transceiver (Najafi et al. column 2 lines 40 – 58, column 3 lines 8 – 56, column 4 lines 50 – 67). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the relay device of Habib et al. with the data storage memory of Najafi et al., since Najafi et al. states that memory would be useful for long – term data monitoring without continuous communication to other devices (Najafi et al. column 4 lines 58 – 67), and the invention of Habib et al. may be embodied in a pacemaker. A pacemaker is an implanted device that would require long – term monitoring.

Furthermore, Habib et al. fails to explicitly disclose transferring data wirelessly between the relay and main transceiver. However, Scarantino et al., a reference in an analogous art teaches the use of a wireless relay (Scarantino et al. column 11 lines 31 – 61, figure 3 item 115, figures 1A & 1B items 75 & 75'). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the wired relay of Habib et al. with the wireless relay of Scarantino et al., since Scarantino et al. teaches the interchangeability between wired and wireless communication methods (Scarantino et al. column 11 lines 31 – 61, figure 3 item 115).

Claims 13 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Habib et al. U.S. Patent No. 6,682,480 in view of Sun et al. U.S. Patent No. 5,861,019, and further in view of Scarantino et al. U.S. Patent No. 6,402,689.

In regards to claim 13, Habib et al. discloses an in-vivo information extracting system comprising:

a tag device used in a living body, a relay device which is installed outside the living body and near the tag device placed in the living body, and a main transceiver which exchanges signals with the relay device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16, figure 1 items 5, 7, and 7),

wherein the tag device comprises:

tag reception means for receiving an electromagnetic wave fed from outside the tag device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16),

power generating means for generating internal operating power from the electromagnetic wave received by the tag reception means (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16),

in-vivo information extracting means for measuring an environment within the living body and outputting measured data (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16), and

tag transmission means for wirelessly transmitting the measured data outputted by the in-vivo information extracting means to the relay device(Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16); and

wherein the relay device comprises:

relay reception means for wirelessly receiving the measured data transmitted by the tag device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16), and

relay transmission means for transmitting the measured data received by the relay reception means to the main transceiver (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16).

Habib et al. fails to disclose the tag reception means and the tag transmission means using a container of the tag device as a radio-frequency antenna. However, Sun et al. a reference in an analogous art teaches disposing antennas for implants on or within the casing of the medical implant (Sun et al. abstract, column 5 lines 26 – 61, column 7 line 66 – column 8 line 19). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the transmission means of Habib et al. with the external casing antennas of Sun et al., since Sun et al. states that antennas with larger surface areas as opposed to coil antennas consume less power and have lower data error rates (Sun et al. column 11 lines 3 – 16, column 12 lines 1 – 6, column 14 lines 37 – 47). Lower data error rates and reduced power consumption are important for successful implanted medical devices.

Furthermore, Habib et al. fails to explicitly disclose transferring data wirelessly between the relay and main transceiver. However, Scarantino et al., a reference in an analogous art teaches the use of a wireless relay (Scarantino et al. column 11 lines 31 – 61, figure 3 item 115, figures 1A & 1B items 75 & 75'). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the wired relay of Habib et al. with the wireless relay of Scarantino et al., since Scarantino et al. teaches the interchangeability between wired and wireless communication methods (Scarantino et al. column 11 lines 31 – 61, figure 3 item 115).

In regards to claim 29, Habib et al. teaches an in-vivo information extracting system comprising:

a tag device used in a living body, a relay device which is installed outside the living body and near the tag device placed in the living body, and a main transceiver which exchanges signals with the relay device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16, figure 1 items 5, 7, and 7),

wherein the tag device comprises:

tag reception means for receiving an electromagnetic wave fed from outside the tag device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16),

power generating means for generating internal operating power from the electromagnetic wave received by the tag reception means (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16),

in-vivo information extracting means for measuring an environment within the living body and outputting measured data (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16), and

tag transmission means for wirelessly transmitting the measured data outputted by the in-vivo information extracting means to the relay device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16); and

wherein the relay device comprises:

relay reception means for wirelessly receiving the measured data transmitted by the tag device (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16), and

relay transmission means for transmitting the measured data received by the relay reception means to the main transceiver (Habib et al. column 1 lines 12 – 61, column 2 line 59 – column 3 line 16).

Habib et al. fails to disclose the tag reception means and the tag transmission means comprising a capsule made of a high dielectric material. However, Sun et al. a reference in an analogous art discloses an implanted medical sensor with an antenna disposed within the capsule of the implant, and comprising layers of dielectric material (Sum et al. column 5 line 24 – column 6 line 55). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the capsule of Habib et al. with the dielectric material capsule of Sun et al., since Sun et al. states that dielectric material insulates bodily fluids from the electrical connections of the sensing device (Sun et al. column 6 lines 19 – 55). Insulating electrical leads prevents unwanted radiation from transferring to bodily fluid and tissue surrounding the implant, and promotes biocompatibility of the implant.

Furthermore, Habib et al. fails to explicitly disclose transferring data wirelessly between the relay and main transceiver. However, Scarantino et al., a reference in an analogous art teaches the use of a wireless relay (Scarantino et al. column 11 lines 31 – 61, figure 3 item 115, figures 1A & 1B items 75 & 75'). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the wired relay of Habib et al. with the wireless relay of Scarantino et al., since Scarantino et al. teaches the interchangeability between wired and wireless communication methods (Scarantino et al. column 11 lines 31 – 61, figure 3 item 115).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kai Rajan whose telephone number is 571-272-3077. The examiner can normally be reached on Monday - Friday 9:00AM to 4:00PM.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KR
November 7, 2007

Michael Astorino